



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/542,994

07/20/2005

Matthew M Deangelis

20030096

2610

22500

7590

11/03/2006

BAE SYSTEMS INFORMATION AND  
ELECTRONIC SYSTEMS INTEGRATION INC.  
65 SPIT BROOK ROAD  
P.O. BOX 868 NHQ1-719  
NASHUA, NH 03061-0868

EXAMINER

LOBO, IAN J

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/542,994

Applicant(s)

DEANGELIS ET AL.

Examiner

Ian J. Lobo

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 August 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7 and 9-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 7 and 9-15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 7 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kompanek ('044).

Kompanek discloses (see Fig. 5) an acoustic projector comprising an even number (6) of longitudinally joined cylindrical shell segments (10a-10f) and an even number (see element 10 in Fig. 1) of spaced drivers mounted within each of the shell segments. Thus, claim 7 is anticipated by Kompanek.

Per claim 11, see longitudinal slot (14).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7, 10, 11, 12, 13, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flanagan et al ('538) in view of Kompanek ('044).

Per claim 7, Flanagan et al discloses a marine projector that in Fig. 1, shows at least one cylindrical shell segment (12) and an even number of spaced drivers (16) mounted within the shell segment.

The difference between claim 7 and Flanagan et al is the claim specifies "an even number of longitudinally joined cylindrical shell segments" whereas Flanagan et al discloses a single cylindrical shell segment.

Kompanek discloses a sonar projector that includes an embodiment (see Fig. 5) having an even number of longitudinally joined cylindrical shell segments. By including a plurality of such shell segments a sonar array is achieved which produces omnidirectional or directional energy, provides large amounts of acoustical power at high efficiencies and at controlled frequencies (col. 5, lines 49-57).

Therefore, in view of Kompanek, it would be obvious to one of ordinary skill in the art to modify Flanagan et al by utilizing an even number (Kompanek shows an even number) of cylindrical shell segments joined together so as to provide a sonar projector that increases the power at high efficiencies and controlled frequencies. Claim 7 is thus, rejected.

Per claim 10, the claimed combined length of the drivers being "between 70 and 90 percent" of the longitudinal length of the shell segment, although not expressly disclosed in Flanagan et al, it however, a matter of design choice that one of ordinary skill in this art would find obvious.

Per claims 11 and 12, see the slot (14) in Flanagan et al.

Per claim 13, see Flanagan et al, col. 4, line 6.

Art Unit: 3662

Per claim 14, see Flanagan et al, Fig. 2.

Per claim 15, see Flanagan et al, element (23).

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flanagan et al in view of Kompanek as applied to claim 7 above, and further in view of Osborn et al ('222).

It is pointed out that the patent to Osborn et al on col. 4, lines 24+, teaches that shell materials may often include any one of aluminum, epoxy/graphite composites, glass fiber/epoxy composites, steel, titanium, etc. To have modified Flanagan et al's shell material by substituting a graphite epoxy composite material for aluminum or steel would have been obvious to one of ordinary skill in the art. Claim 9 is so rejected.

### ***Response to Arguments***

6. Applicant's arguments with respect to claim 7 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 3662

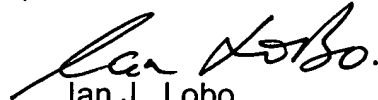
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (571) 272-6974. The examiner can normally be reached on Monday - Friday, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ian J. Lobo  
Primary Examiner  
Art Unit 3662

ijl